

BIBLIOGRAPHICAL NOTICE.

British Zoophytes: an Introduction to the Hydroida, Actinozoa, and Polyzoa found in Great Britain, Ireland, and the Channel Islands.

By ARTHUR S. PENNINGTON, F.L.S., F.R.M.S. L. Reeve and Co., 1885.

MR. PENNINGTON'S book is mainly a compilation, and does not claim to be anything more. His object has been to supply a manual, moderate in size and therefore in price, which should meet the wants of students up to a certain point and serve as an introduction to more elaborate and costly works. The object is in itself highly useful and commendable, and those who are interested in the diffusion of scientific taste and knowledge will be quite prepared to recognize its value. Such books are clearly required not only for the student at a certain stage of his education, but also for the very considerable and probably increasing class who, without professing to take natural history *au sérieux*, find in it a fascinating pastime. But whilst we fully recognize the value of the work which Mr. Pennington has set himself to accomplish, we feel that a question may fairly be raised as to the conditions under which it is legitimate to appropriate and reproduce the fruit of other men's labours. We do not of course mean to imply that there are "vested rights" in the contributions which the students of science make to the common stock of knowledge. If there were no one would care to enforce them. The aim of all true science is to win more truth for humanity, and the sooner and the more widely it is diffused when it is won the better. But it is one thing to assimilate the results of scientific research and to body them forth with the stamp of our own individuality upon them, and quite another to transfer them without fresh minting and superscription from the pages of their author to our own. Scientific truth, like all other truth, becomes part of the common possession of mankind, and is free to all as the air we breathe; but the literary form in which it is first presented, the dress in which the individuality of its discoverer has clothed it, the colour which it takes from his mental idiosyncrasy—these, it would seem, must be personal property, and are to be respected as such.

We venture to think that Mr. Pennington has transgressed in this matter, and that his manual is too largely made up of material simply borrowed from others, and not assimilated and made his own by any special treatment. The *ipsissima verba* are retained. It is not too much to say that almost the entire framework of the manual is taken, wholly unaltered, from the works of Allman, Hincks, and Gosse. In the case of the Marine Polyzoa, and to a large extent of the Hydroida also, the elaborate diagnosis of the families and genera is copied from Mr. Hincks's "Histories,"—not without acknowledgment, it is true, but, it seems to us, without due regard for the claims of both the author and publisher of these works. We do not wish to press the case against Mr. Pennington; probably he has done nothing which has

not been done by others before him. But a word of caution seems to be needed. We have no doubt that the authors to whom he is so largely indebted are animated by no niggard spirit, and will rejoice that a larger number may participate in the fruit of their labours. We may hope, too, that of those who may be allured by Mr. Pennington's work to the study of natural history, not a few will be led on to the original sources from which he has drawn. None the less, however, is it right that the line should be clearly drawn between the two very distinct kinds of compilation—that which is an exposition of the work of others, informed and vivified by the spirit of the compiler and adapted by him to his special purpose, and that which is in great measure mere wholesale appropriation. The latter, unless it be with the concurrence of the author whose interests are involved, cannot be accounted legitimate.

With this caveat it may be admitted that Mr. Pennington's manual may prove a useful guide to those who desire to collect and study the British species of Cœlenterata and Polyzoa, but are unable to command the large and necessarily costly books to which we have referred. At the same time its value to the student, so far as the Polyzoa are concerned, is considerably reduced by the very imperfect diagnosis given of many of the species. Indeed in a large number of cases there is nothing worthy of the name of a diagnosis, a few particulars loosely and vaguely stated, or a fancied resemblance to some familiar object, doing duty for the minute and precise account of the morphological characters which (in this class especially) is essential to sure identification. This may give a more "popular" character to the book, but it must necessarily affect both its scientific value and its practical utility. A great change has passed over the systematic treatment of the Polyzoa within very recent times, and the meagre and indefinite descriptions which the earlier naturalists have left us (with a few illustrious exceptions), and which were still general till within the last few years, are no longer accepted as sufficient. The evolutionary movement has rendered new methods necessary, and as a result we have now much greater precision and fulness in diagnosis, and consequently much more certain identification and much surer data for the study of varietal forms. We should regret to see a return to the old ways even in elementary works. It is only fair to add that, to a large extent, Mr. Pennington must have been hampered by the conditions under which his manual has been prepared. It would have been difficult to do full justice to his subject within the limits prescribed for him.

Objection may fairly be taken to the title of the work, on the ground that it is likely to perpetuate a false idea of the relationship existing between the tribes embraced under it; these, though in part referable to distinct divisions of the animal kingdom and widely different in structure, are blended in a single group under a common name. We cannot admit the force of Mr. Pennington's plea for the course which he has adopted. The fact that some of the Polyzoa "are as much plant-like in appearance as the Hydroids"

is hardly a reason for retaining a term which suggests superficial resemblance only, as if that was the important point; it is rather a reason for discarding it altogether. We believe that it would have been wiser not to sacrifice strict scientific accuracy even for the sake of a convenient and taking title.

A useful feature of the present work, which merits commendation, is the condensed, but carefully compiled, account of the structural plan which characterizes the leading groups. This is quite sufficient for its purpose, without being burdened with detail, and will give the student in each case a clear general conception of the form of life which he is about to investigate. There is also a sketch of the classification, in which due account is taken of the later views. In the case of the Polyzoa the system proposed by Mr. Hincks in his 'History' of the British marine forms is adopted; but it is to be regretted that the author has not explained and emphasized the cardinal principle on which it rests. The only reference to the subject which we have noticed is to be found in the casual remark that "the appearance and arrangement of the zoecia" are "important elements in classification," which certainly throws no light on the distinction between the new method and the old.

There are special difficulties in the way of framing a natural classification of the Polyzoa, and until very recently systematists contented themselves with one which was admittedly artificial. The suggestive writings of the Swedish zoologist, Prof. Smitt, first indicated the direction in which the basis of a more philosophical system must be sought, and formulated the fruitful principle that it is in the zoecial characters rather than in the zoarial—in the essential characters of the cell rather than in the mode of aggregation and habit of growth—that we find the surest clue to natural affinity. The scheme of classification elaborated by Mr. Hincks, and to a large extent accepted by recent students of the class, rests on this fundamental principle, which has been confirmed by many new observations, and especially by the evidence obtained of the instability of zoarial habit and the way in which the most marked forms of it are associated indifferently with this or that zoecial type. Few probably would venture to contend that we have yet reached a complete solution of the problem; but as little can it be questioned that a very considerable advance has been made towards it, and that an immense gain has been realized in the general abandonment of the purely artificial system. In the interest of the student we think that Mr. Pennington would have done well to refer to this very important branch of his subject.

In the account of the species under the several divisions the dryness of mere diagnosis has been relieved by the introduction of many interesting passages from the writings of Ellis, Johnston, Gosse, Landsborough, and others, and the work has thus been rendered more attractive to those for whom it was originally designed—the young student and the amateur naturalist—though not, we fear, without some sacrifice of its value as a scientific guide. The figures by Mrs. Pennington are for the most part sufficiently distinctive and

will be a valuable aid to identification. The concluding chapter deals with the best methods of collecting and preserving specimens, and gives within a small compass a considerable amount of useful practical information. A short "Bibliography" is followed by a "Glossary," in which we note several rather serious errors. The "palpocil" is defined as a "collection of stinging cells;" it is really a simple tactile organ. The name "polypide" is referred to the alimentary zooid of the Hydroida, and "polypite" to that of the Polyzoa; the reverse would be true. "Trophosome" is not (as stated) a "Hydroid colony," but the assemblage of nutritive zooids in such a colony. "Operculum" is defined as a "protective covering or lid," which no doubt it is, as any dictionary would show. But the student wants to know its technical use, and should have been told that it is the valve which closes the orifice (oral valve) of the Polyzoa. The definition of "zooid" as "an alimentary or reproductive polyp" is much too limited. The avicularium and vibraculum are equally zooids. It would have been better to follow Huxley—"a term applied to the individuals of compound organisms."

The peculiar significance of the term "sporosac" is not indicated by calling it a "sac-shaped gonophore." It is, in fact, the generative sac—the sac in which the generative elements are developed.

The publication of the present elementary work may be taken as an indication of a somewhat widely diffused taste for the study of marine zoology, and we trust that it may not only gratify that taste in its own measure and degree, but lead many to desire more than it can give them, and to seek a fuller knowledge of the subject at other sources.

MISCELLANEOUS.

A few Words in Answer to Mr. Distant's "Remarks" on the Genus Terias. By ARTHUR G. BUTLER.

MUCH as I dislike unnecessary discussion on points which do not possess any "scientific value," I must call the attention of lepidopterists to the fact that Mr. Distant, whilst apparently answering my statements, has in almost every case avoided the point at issue, and therefore has laid himself open to the very charge of "misrepresentation" which he asks me to own to; this, *in the interest of science*, it is necessary to prove, since it affects the identification not of what Mr. Distant calls varieties, but of what he, in common with myself, would admit to be representatives of different groups.

Mr. Distant's explanation of his *lapsus calami*, for such I am willing to believe it to have been, is ingenious but not admissible: that he did not carefully consider his words when he called a species (not a "species") a variety, I can well understand; but that he, in a certain sense, believed that the said species was more than a variety, is evidenced by the constant use of dubious terms throughout his work, such as "new species or variety," "this species is of a varietal